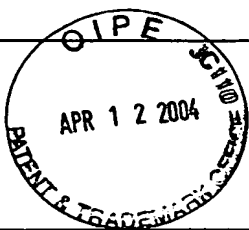


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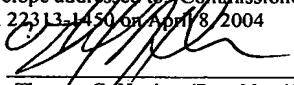
GROUP 3600

APPEAL BRIEF TRANSMITTAL LETTER		Docket Number: 12308/1		
Application Number 10/031,322	Filing Date June 21, 2002	Examiner Jori Schiffman	Art Unit 3679	Confirmation No. 5907
Invention Title DRIVE BEARING ARRANGEMENT OF ROTATING TOOLS IN PRINTING MACHINES		Inventor(s) Dieter ARABIN		

Address to:

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By: 
Thomas C. Hughes (Reg. No. 42,674)

Transmitted herewith is an Appeal Brief, filed in triplicate, for the above-identified application.

The Commissioner is hereby authorized to charge payment of the Appeal Brief fee of \$330.00 due under 37 C.F.R. § 1.192(a) to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**.

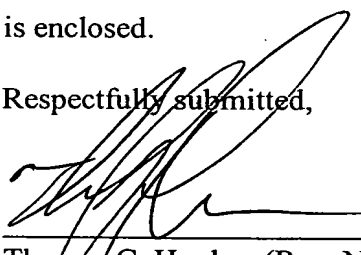
The Commissioner is also authorized to charge any additional fees in connection with this communication or credit any overpayment to the deposit account of **Kenyon & Kenyon**, deposit account number **11-0600**.

A duplicate copy of this communication is enclosed.

Respectfully submitted,

Dated: April 8, 2004

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Docket No. 12308/1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor : Dieter ARABIN
Serial No. : 10/031,322
Filing Date : June 21, 2002
For : DRIVE BEARING ARRANGEMENT OF ROTATING
TOOLS IN PRINTING MACHINES
Group Art Unit : 3679
Confirmation No. : 5907
Examiner : J. Schiffman

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By: 

Thomas C. Hughes (Reg. No. 42,674)

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Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 1.192(a)

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In the above-identified patent application ("the present application"), on February 13, 2004, Appellant filed a Notice of Appeal and Request for Extension of Time Pursuant to 37 C.F.R. §1.136 (a) from the final rejection of claims 4 to 7 contained in the Final Office Action issued by the United States Patent and Trademark Office ("the PTO") on October 15, 2003. Since the Notice of Appeal was filed on February 13, 2004, the period for filing this Appeal Brief expires on April 13, 2004.

In accordance with 37 C.F.R. § 1.192(a), this brief is submitted in triplicate in support of the appeal of the final rejection of claims 4 to 7. For at least the reasons set forth below, it is respectfully submitted that the final rejections of claims 4 to 7 should be reversed.

1. REAL PARTY IN INTEREST

The real party in interest in the present appeal is Gallus Ferd. Ruesch AG ("Gallus Ferd") of St. Gallen in Switzerland. Gallus Ferd is the assignee of the entire right, title and interest in the present application.

2. RELATED APPEALS AND INTERFERENCES

There are no interferences or other appeals related to the present application "which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal."

3. STATUS OF CLAIMS

Claims 4 to 7 are pending in the present.

Claims 1 to 3 were previously cancelled.

Claims 4 to 6 were finally rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 1,251,065 ("McCain").

Claim 7 was finally rejected under 35 U.S.C. § 103(a) as unpatentable over McCain in view of U.S. Patent No. 5,137,495 ("Luebke").

Appellant appeals from the final rejection of claims 4 to 7.

A copy of the appealed claims is attached hereto as Appendix A.

4. STATUS OF AMENDMENTS

A Final Office Action was issued in this application on October 15, 2003. The Final Office Action made final the rejections to claims 4 to 7.

In response to the Final Office Action dated October 15, 2003, a Reply Under 37 C.F.R. § 1.116 was filed in the USPTO on December 11, 2003. An Advisory Action was mailed on January 7, 2004. The Advisory Action refused entry of Appellant's Reply Under 37 C.F.R. §1.116.

5. SUMMARY OF THE INVENTION

The present invention relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. According to one embodiment, the present invention provides a drive bearing arrangement between a rotating tool and a drive shaft which can be disconnected relatively quickly and improve the precision of the bearing in comparison with conventional solutions.

Specification at page 1, line 33 to page 2, line 3. Fig. 1 illustrates a printing machine. Specification at page 3, lines 5 to 6. The printing machine includes a web reeling off unit 1, a conditioning unit 2, which may include a screen printing device 3, a printing device 4, a plurality of further printing units 5 - 9, a flex printing device 10 with a drying device 11, a supply part 12, a processing part 13 with punching device 14, reeling unit 15 and cutting unit 16, as well as a reeling unit 7 used for storage. Specification at page 3, lines 7 to 14.

Fig. 2 illustrates a rotating tool 18 releasably but firmly coupled via an element 19 having an axial projecting connecting cone 20 to the drive shaft 21 of a servomotor 22. Specification at page 3, lines 20 to 23. The other end of the tool 18 is held in a known manner in a bearing, e.g., a needle bearing located in a detachable flange of a frame. Specification at page 3, lines 23 to 26. The servomotor 22 is also mounted to a flange 23 of the base frame of the unit. Specification at page 3, lines 26 to 27.

The tools, e.g., form cylinder, counter pressure cylinder, coloring apparatus, extend or pivot away from the frame flanges. Specification at page 3, line 35 to page 4, line 2. Each tool is provided with a connecting cone 20 and is inserted into a cone shaped recesses 24 of the drive shafts 21 and precisely centered therein. Specification at page 4, lines 2 to 5. In order to have the tool sitting with the correct angular position on drive shaft 21, a pin 25 is employed to anchor the coupling cone 20. Specification at page 4, lines 5 to 7. The coupling occurs by frictional engagement between the surfaces of the cone 20 and the cone shaped recess 24 in that the coupling cone 20 is tightened by means of a tightening rod 26 (26') against the drive shaft 21. Specification at page 4, lines 9 to 12.

The tightening rod 26 engages a central undercut bore 27 of the cone 20 where a spreading head is located which can be extended to such an extent that the cone 20 is tightened. Specification at page 4, lines 15 to 18. In order to release the drive connection or the drive bearing, the tightening rod 26 (with spreading head 28) is released. Specification at page 4, lines 19 to 21.

6. ISSUES

- A. Whether claims 4 to 6 are patentable over McCain.
- B. Whether claim 7 is patentable over McCain in view of Luebke.

7. GROUPING OF CLAIMS

For purposes of this appeal, all claims do not stand or fall together. Claims 4 to 6 will be argued as one group. Claim 7 will be argued as a second group.

8. ARGUMENTS

A. The Rejection of Claims 4 to 6 Under 35 U.S.C. § 102(b) as Anticipated by McCain Should Be Reversed

Claims 4 to 6 stand finally rejected under 35 U.S.C. § 102(b) as unpatentable over McCain. It is respectfully submitted that McCain does not anticipate claims 4 to 6 for at least the following reasons.

With respect to claim 4 of the present application, the Final Office Action states that "McCain discloses a drive bearing capable of being used in printing machines for coupling a rotating tool to a drive shaft of a servomotor comprising an element 18 located at an interface between the rotating tool 11 and the drive shaft 12 on a tool axis, the element having an axially projecting coupling cone 24 that engages a counter recess 21 of the drive shaft, the cone being releasably held in the recess by frictional engagement against nuts 25 wherein an angular position of the element is adjustable (col. 1, 1.9-11), and wherein the element is centered and configured to be secured to prevent rotation." Final Office Action at page 2.

Claim 4 relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. Claim 4 recites that the drive bearing includes an element located at an interface between the rotating tool and the drive shaft on a tool axis. Claim 4 recites that the element has an axially projecting coupling cone that engages a counter recess of the drive shaft. Claim 4 also recites that the cone is releasably held in the recess by frictional engagement. Claim 4 also recites that an angular position of the element is adjustable, and that the element is centered and configured to be secured to prevent rotation.

McCain relates to “shaft couplings permitting angular adjustment of one shaft or shaft section relative to another.” Page 1, lines 8 to 11.

Applicant respectfully maintains that claim 4 is not anticipated by McCain for at least the reason that McCain does not disclose or even suggest all of the limitations recited in claim 4. For example, McCain does not disclose or even suggest an element having an axially projecting coupling cone that engages a counter recess of the drive shaft and that is releasably held in the recess by frictional engagement, as recited in claim 4. The Specification states at page 4, lines 2 to 5 that “[e]ach tool is provided with connecting cone 20 and is inserted into cone shaped recesses 24 of drive shafts 21 and precisely centered therein.” The Specification further states at page 4, lines 9 to 11 that “[t]he coupling occurs by frictional engagement between the surfaces of cone 20 and cone shaped recess 24.”

In contrast, McCain describes that “[t]he member 18 is shown as enlarged at its forward end and formed with a socket 19 [whereby] the interior wall 19’ of the socket 19 is conical in shape, enlarging as it extends inwardly for some distance.” Column 2, lines 73 to 80. McCain also describes that “[in an] annular space left between the extension 24 of the member 18 and the conical wall 19’ of the socket ... are arranged a series of nuts 25 [whereby] the surface 26 of each of these nuts fits and slides upon the outer cylindrical surface 27 of the extension 24, and the surface 27 conforms to the conical surface 19’ of the interior wall of the socket 19.” Column 2, lines 100 to 110, emphasis added.

Thus, as an initial matter, McCain does not disclose or suggest a coupling cone because the surface 27 of the extension 24, which the Examiner identifies as being a coupling cone, is cylindrical. Thus, contrary to the Examiner’s contention, the extension 24 is not a coupling cone. The Advisory Action states that “the shape of the ‘cone’ in McCain is the same as the shape of the ‘cone’ in Fig. 3 of the instant invention.” Advisory Action at Continuation Sheet 2. This is clearly incorrect, since Figure 3 of the present application is shown and described as being conical in shape, while the surface 27 of the extension 24 in McCain is clearly stated as being cylindrical.

Furthermore, McCain does not disclose or suggest a counter recess which engages the coupling cone, as recited in claim 4. While the Examiner identifies the contracted portion 21 of the socket 19 as being a counter recess, the

contracted portion 21 is cylindrical in shape, not conical. Thus, the contracted portion 21 of the socket 19 does not constitute a counter recess to a conically-shaped coupling cone.

Furthermore, McCain does not disclose or suggest the coupling cone being releasably held by frictional engagement with the counter recess, as recited in claim 4. To the extent that the extension 24 and the contracted portion 21 of the socket 19 could be considered to be a coupling cone and a counter recess, respectively -- which Applicant maintains for the above-stated reasons they should not be -- these components are not in frictional engagement with each other because they are both cylindrical in shape and thus do not releasably hold each other. Furthermore, to the extent that the conical surface 19' of the interior wall of the socket 19 could be considered as being the counter recess -- which Applicant maintains for the above-stated reasons it should not be -- the conical surface 19' of the interior wall of the socket 19 never touches the surface 27 of the extension 24. Rather, the nuts 25 are always interposed between the conical surface 19' of the interior wall of the socket 19 and the surface 27 of the extension 24. Thus, the conical surface 19' of the interior wall of the socket 19 is never in frictional engagement with the surface 27 of the extension 24. Finally, to the extent that the conical surface 19' of the interior wall of the socket 19 could be considered as being the counter recess and to the extent that the outer surface of the nuts 25 could be considered as being the coupling cone -- which Applicant maintains for the above-stated reasons they should not be -- the nuts 25 are held relative to the conical surface 19' of the interior wall of the socket 19 because the radial thickness of a portion of the nuts 25 is larger than a portion of the interior diameter of the conical surface 19' of the interior wall of the socket 19, not by friction.

Furthermore, McCain does not describe an element located at an interface between the rotating tool and the drive shaft. Rather, McCain describes that "for the purposes of this invention therefore the shaft 12 and the member 18 are the two members that are to be coupled and may be considered as separate shaft members or sections, either of which may constitute the driving member." Page 1, lines 67 to 72. McCain further describes that a front cover of a crank case 11 is "secured in place." Page 1, line 47. The Final Office Action further states that, while "the crank case cover 11 of McCain is secured in place, ... the cover is preferably detachable (col. 1, l. 46-47) [and thus] the tool 11 is capable of rotating..." Final

Office Action at page 3. Applicant respectfully maintains that the Examiner is impermissibly ascribing attributes to McCain that are not recited as being present.

Additionally, to reject a claim under 35 U.S.C. § 102, the Examiner must demonstrate that each and every claim limitation is contained in a single prior art reference. See, Scripps Clinic & Research Foundation v. Genentech, Inc., 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Still further, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as discussed above. See, Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). In particular, it is respectfully submitted that, at least for the reasons discussed above, the reference relied upon would not enable a person having ordinary skill in the art to practice the inventions of the rejected claims, as discussed above. Also, to the extent that the Examiner is relying on the doctrine of inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flows from the teachings of the applied art." See M.P.E.P. § 2112; emphasis in original; and see, Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, the anticipation rejection as to the rejected claims must necessarily fail for the foregoing reasons.

In summary, it is respectfully submitted that McCain does not anticipate claim 4, and reversal of this rejection is respectfully requested.

As for claims 5 and 6, which depend from claim 4 and therefore include all of the limitations of claim 4, it is respectfully submitted that McCain does not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claim 4, and reversal of this rejection is respectfully requested also.

B. The Rejection of Claim 7 Under 35 U.S.C. § 103(a) as Unpatentable Over McCain in View of Luebke Should Be Reversed

Claim 7 stands finally rejected under 35 U.S.C. § 103(a) as unpatentable over McCain in view of Luebke. Appellant respectfully submits that this rejection of claim 7 should be reversed for at least the following reasons.

Claim 7 relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. Claim 7 recites that the drive bearing includes an element located at an interface between the rotating tool and the drive shaft on a tool axis. Claim 7 recites that the element has an axially projecting coupling cone that engages a counter recess of the drive shaft. Claim 7 also recites that the drive bearing includes the cone tapering down in the direction towards the drive shaft and being releasably held in the recess by frictional engagement. Claim 7 also recites that the drive bearing includes an undercut on an inner bore of the coupling cone of the element. In addition, claim 7 recites that the drive bearing includes a tensioning rod having a spreading head, the rod configured to extend through the drive shaft of the servomotor so that the cone frictionally engages the counter recess in the drive shaft so as to provide a releasable holding of the coupling cone. Furthermore, claim 7 recites that an angular position of the element is adjustable, the element being centered and configured to be secured to prevent rotation.

Luebke purports to relate to a shaft coupling allowing for an offset of axes, that comprises radially displaceable members and preferably serves to couple a journal of a printing cylinder to a drive shaft and comprises positively interengaging coupling parts, which are connected to the respective shafts to be coupled, and an assembly for forcing the coupling parts against each other. Abstract. Luebke states that a radially displaceable outer coupling disk of the shaft coupling is connected to a member which is formed with a central bore, an axially displaceable bolt extends into and is centered in the bore and when the shaft coupling is disengaged the bolt will be urged by a spring into a central bore or aperture of the drive shaft or of a member which is connected to the drive shaft. Abstract.

The Final Office Action admits that "McCain fails to disclose the cone tapering down in the direction towards the drive shaft." Final Office Action at p. 4. However, the Final Office Action contends that Luebke describes "an element 4 for coupling drive shafts comprising a coupling cone 6 having a taper in the direction

towards the drive shaft 16 for engaging with the tapering recess of the mating head 10.” Final Office Action at p. 4. The Final Office Action concludes that “[i]t would have been obvious at the time the invention was made to a person of ordinary skill in the art to include a taper on the coupling cone of McCain as disclosed in Luebke to cooperate with the contracted portion 21 of the socket 19, thereby creating a more secure connection.” Final Office Action at p. 4.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Applicant respectfully maintains that claim 7 is not rendered unpatentable by the combination of McCain and Luebke for at least the reason that the combination of McCain and Luebke does not disclose or even suggest all of the limitations recited in claim 7. For example, the combination of McCain and Luebke does not disclose or even suggest an element having an axially projecting coupling cone that engages a counter recess of the drive shaft, the cone tapering down in the direction towards the drive shaft and being releasably held in the recess by frictional engagement, as recited in claim 7.

For instance, and as set forth above, it is respectfully submitted that McCain does not disclose or suggest an axially projecting coupling cone that engages a counter recess of the drive shaft, the cone being releasably held in the recess by frictional engagement. Luebke is not relied upon for describing or suggesting, and in fact do not describe or suggest, this limitation of McCain. Rather,

Luebke describes “[a] coupling part 4 ... compris[ing] a coupling extension 6, which is trapezoidal in cross-section.” Column 3, lines 5 to 8, emphasis added. Thus, as an initial matter, the coupling extension 6, which the Examiner identifies as being a coupling cone, is in fact not conical but trapezoidal. Luebke also describes that “[the coupling extension 6] is succeeded by a cylindrical guide pin 7 [having] a cylindrical extension 8, which is provided at its free end with an outwardly protruding flange 9.” Luebke also describes that “the spring 22 always urges the rod 23 in the direction which is indicated by the arrow A so that the drawhead 24 which is connected to the left-hand end of the rod 23, by means of the gripping jaws 25 firmly pulls the coupling part 4 against the receiving head 10.” Thus, it is the spring 22, and the gripping of the outwardly protruding flange 9 by the gripping jaws 25, that holds the coupling extension 6 relative to the tapering recess of the mating head 10, not friction. Since the combination of McCain and Luebke does not disclose, or even suggest, all of the limitations recited in claim 7, it is respectfully submitted that the combination of McCain and Luebke does not render obvious claim 7.

Furthermore, a person having ordinary skill in the art would not have been motivated to modify or combine McCain and Luebke to provide the claimed subject matter of the claims to address the problems met thereby. Specifically, a person having ordinary skill in the art, desiring to modify the arrangement of McCain so as to provide a coupling cone and counter recess that are releasably held by frictional engagement, would not have been motivated to employ the teachings of Luebke. To the extent that either McCain or Luebke disclose a coupling cone and a counter recess -- which Applicant maintains they do not -- Luebke does not teach a frictional engagement of these components but instead teaches a biasing engagement, e.g., spring 22, and a gripping engagement, e.g., gripping jaws 25.

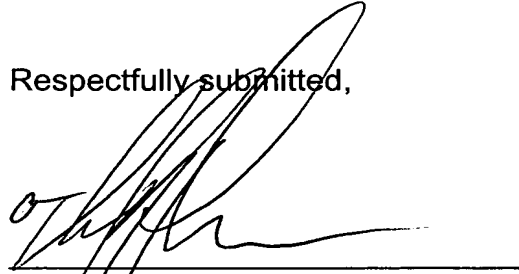
Reversal of the final rejection of claim 7 is therefore respectfully requested.

9. **CONCLUSION**

In view of the foregoing, it is respectfully submitted that McCain does not anticipate claims 4 to 6, and that the combination of McCain and Luebke does not render obvious claim 7.

Reversal of the final rejections of claims 4 to 7 is therefore respectfully requested.

Respectfully submitted,



Dated: April 8, 2004

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